

**I Claim:**

1. A device for continuously measuring multiple properties from a variety of fluids in motion, comprising:

a fluid inlet;

5 an optimally dimensioned fluid path;

at least three sensors;

a data acquisition and analysis means for accurately determining multiple properties of a variety of fluids in motion; and

a fluid outlet,

10 wherein said at least three sensors measure the pressure and optionally the temperature of said variety of fluids in motion; wherein at least two of the said at least three sensors are pressure sensors and wherein data acquired from said at least three sensors is analyzed in order to calculate properties relating to the variety of fluids in motion, said properties selected from the group comprising;  
15 viscosity, density, velocity, flow rate, pressure and temperature.

2. A fluid flow measuring device comprising a recessed fluid pathway to optimally receive a fluid in motion for precise measurements of properties selected from the group comprising; viscosity, velocity, density, temperature and  
20 pressure.

3. A method for continuously measuring properties of a variety of fluids in motion comprising the steps of:

pumping a fluid in motion into a flow block comprising an optimally dimensioned recessed flow path;

sensing a variety of parameters of said fluid in motion using a series of sensors optimally positioned within said recessed flow path;

5        acquiring data directly from the sensors and analyzing said data using a matrix; and

      using said analyzed data to report properties relating to said fluid in motion, said properties selected from the group comprising; viscosity, density, velocity, flow rate, pressure and temperature.

10